

Response to Official Action
Application No. 10/788,428
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Amendments to the Drawings:

No amendments are made to the Drawings herein.

REMARKS

By the foregoing Amendment, Claim 1 is amended. Entry of the Amendment, and favorable consideration thereof, is earnestly requested.

Claims 15-21 are allowed. Claims 1-2, 7, and 11-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Huttlin (U.S. Patent No. 5,145,650) in view of Huttlin (U.S. Patent No. 6,367,165) and Gribanov et al. (RU 2151988 C1), and in some cases, further in view of Engstrom et al. (U.S. Patent No. 5,093,085). Applicant respectfully asks the Examiner to reconsider these rejections in view of the above Amendments and the below Remarks.

In the present invention, as claimed, there are three different movements of the particulate material within the elongated tunnel-like process chamber of the invention. Two flows are oriented transversely with respect to the longitudinal direction of the process chamber, which two flows are oriented oppositely towards each other. The two oppositely oriented flows impinge one another along the center breaking-up zone.

Claim 1 has been amended to highlight the fact that, for achieving these two flows, the bottom of the process chamber has overlapping horizontal guide plates forming slots therebetween. The horizontal overlapping guide plates are superimposed in such pattern that the two opposite flows result.

Claim 1 has also been amended to highlight the fact that a third flow is provided for moving the particulate material in the longitudinal direction from the inlet to the outlet during the treatment. For achieving this movement, air guide elements are arranged in the bottom, and these air guide elements are each pivotal in a generally horizontal plane about a generally vertical axis. An adjustment device pivots the air guide elements about the generally vertical axis

about which each of said air guide elements is pivotable so as to adjust these air guide elements for superimposing a variable movement component in said longitudinal direction on the entering process air. If the air guide elements are adjusted as shown in Fig. 5 of the application, only the two opposite flows are generated. When adjusting to a position as shown in Fig. 6, a movement component in the longitudinal direction (arrow 76) is superimposed. Claim 1 has been amended to highlight that it this variable movement component of the process air serves for adjusting a longitudinal advance movement of the material passing the process chamber from the inlet to the outlet, and is caused by pivoting each of the air guide elements in a generally horizontal plane about a generally vertical axis.

Huttlin ('650) discloses an apparatus being subdivided into six process chambers 12 disposed one behind the other. Each of the process chambers has a pot-like structure and serves for treating a particular material therein. After the treatment is finished within the six individual chambers, the bottoms of the six chambers open, and the treated material falls onto a belt 30 arranged below the six chambers.

This means, in Huttlin ('650), that there are no air guide elements pivotable in a generally horizontal plane about a generally vertical axis, nor any adjustment device which pivots the air guide elements about the generally vertical axis about which each of said air guide elements is pivotable so as to adjust the air guide elements for superimposing a variable movement component in the longitudinal direction on the entering process air. In fact, in Huttlin ('650) there is no movement in the longitudinal direction whatsoever during the treatment. This movement occurs after the treatment is finished. Additionally, the plates designing the bottom in Huttlin ('650) are not horizontal.

Huttlin ('165) discloses a process chamber which is not elongated, but rather is circular. Within this circular process chamber, two opposite flows are generated, with the aim to have these two opposite flows impinging one another along a diameter of the circular bottom.

Huttlin ('165) does not disclose, teach or suggest in any way an elongated, tunnel-like process chamber, and, therefore, there is no need in Huttlin ('165) to provide a longitudinal movement which is transverse to the two opposite flows.

Gribanov et al. discloses inclined fire grate bars having a wave-like configuration (and not horizontal plates) which are overlapping one another. These bars serve to guide a coarse material, like cement, lime etc., from a higher level to a lower level. Movable flaps are arranged between these fire bars for directing the coarse material moving from the upper level to a lower level. No elongated, tunnel-like process chamber having the three different movements as described above is shown by Gribanov et al. Moreover, the flaps of Gribanov et al., even if they are considered to be air guide elements, are not pivotal in a generally horizontal plane about a generally vertical axis, nor is there any adjustment device which pivots the air guide elements about the generally vertical axis about which each of said air guide elements is pivotal so as to adjust the air guide elements for superimposing a variable movement component in the longitudinal direction on the entering process air. Instead, each of the flaps of Gribanov et al. are pivotal in a generally vertical plane about a generally horizontal axis, so as to assist material in moving from a higher level to a lower level (i.e., not longitudinally).

Moreover, Applicant respectfully submits that no combination of the cited references would arrive at the present invention. As discussed above, Huttlin ('650), the main reference cited by the Examiner, does not disclose, teach or suggest a number of the requirements of Claim 1, as amended. Moreover, as

discussed above, there is absolutely nothing in any of the other cited references which would motivate one skilled in the art to make the modifications to Huttlin ('650) necessary to arrive at the claimed invention. More specifically, there is absolutely no disclosure, teaching or suggestion in any of the references to provide a variable movement component of the process air so as to adjust a longitudinal advance movement of the material passing the process chamber from the inlet to the outlet. As such, there is absolutely no motivation provided in the prior art to modify Huttlin ('650) to include the "flaps" of Gribanov et al. and then to modify the hypothetical device resulting from this combination to make each of these "flaps" pivot in a generally horizontal plane about a generally vertical axis.

Therefore, Applicant respectfully submits that the present invention, as claimed, would not have been obvious to one having ordinary skill in the art in view of the cited prior art, either when taken alone or when taken in combination.

For the foregoing reasons, Applicant respectfully submits that all pending claims, namely Claims 1-21, are patentable over the references of record, and earnestly solicits allowance of the same.

Respectfully submitted,

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